What is claimed is:

1. An isolated nucleic acid molecule selected from the group consisting of:

a) a nucleic acid molecule comprising the nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO:1, 3, or the cDNA insert of the plasmid deposited with the ATCC as Accession Number PTA-1836; and

b) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or the amino acid sequence encoded by the cDNA insert of the plasmid deposited with the ATCC as Accession Number PTA-1836.

2. The isolated nucleic acid molecule of claim 1, which consists of a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or the amino acid sequence encoded by the cDNA insert of the plasmid deposited with the ATCC as Accession Number PTA-1836.

3. An isolated nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule comprising from about 10 to about 64 contiguous nucleotides from the nucleic acid sequence ATGGCGGCGGCGGCGGGGAATCGCGCCTCGTCGGGATTCCCGGGCGC CAGGGCTA and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(b) a nucleic acid molecule comprising from about 10 to about 64 contiguous nucleotides from the nucleic acid sequence GAGAAAATGGCGGCGGCGGCGGGGAATCGCGCCTCGTCGGGATTCCC

GGGCGCCAGGGCTA and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(c) a nucleic acid molecule comprising the nucleic acid sequence GCGCGCCCGCG and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(d) a nucleic acid molecule comprising the nucleic acid sequence CCGCGAGCCGCGGCGGC and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(e) a nucleic acid molecule comprising the nucleic acid sequence GCACGTGGA and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(f) a nucleic acid molecule comprising the nucleic acid sequence CTACGTCTA and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(g) a nucleic acid molecule comprising the nucleic acid sequence CCAGTTCCA and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(h) a nucleic acid molecule comprising the nucleic acid sequence GCTATTGC and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(i) a nucleic acid molecule comprising the nucleic acid sequence TTTGGATGGTCA and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(j) a nucleic acid molecule comprising the nucleic acid sequence GGACAGCTTC and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(k) a nucleic acid molecule comprising the nucleic acid sequence CCCCTGAGTGC and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(l) a nucleic acid molecule comprising the nucleic acid sequence GCCAGCATTT and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(m) a nucleic acid molecule comprising the nucleic acid sequence CATCTAGACCT and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(n) a nucleic acid molecule comprising the nucleic acid sequence GGCTGTAGCA and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(o) a nucleic acid molecule comprising the nucleic acid sequence GTAATGCTGT and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(p) a nucleic acid molecule comprising the nucleic acid sequence CCCAGTGAC and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1;

(q) a nucleic acid molecule comprising the nucleic acid sequence GGATGCCCTCCCCAT and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1; and

(r) a nucleic acid molecule comprising the nucleic acid sequence GGCCTTTCG and having at least 80% homology to the nucleic acid sequence shown in SEQ ID NO:1.

4. The nucleic acid molecule of claim 1 or claim 3 further comprising vector nucleic acid sequences.

5. The nucleic acid molecule of claim 1 or claim 3 further comprising nucleic acid sequences encoding a heterologous polypeptide.

6. A host cell which contains the nucleic acid molecule of claim 1 or claim 3.

7. The host cell of claim 6 which is a mammalian host cell.

8. A non-human mammalian host cell containing the nucleic acid molecule of claim 1 or claim 3.

9. An isolated polypeptide which is encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 97% identical to a nucleic acid comprising the nucleotide sequence of SEQ ID NO: 1, 3, the amino acid sequence encoded by the cDNA insert of the plasmid deposited with the ATCC as Accession Number PTA-1836, or a complement thereof.

10. An isolated polypeptide selected from the group consisting of:

a) a polypeptide comprising from about 5 to about 19 contiguous amino acids from the amino acid sequence MAAAAGNRASSSGFPGARAT and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

b) a polypeptide comprising from about 5 to about 19 contiguous amino acids from the amino acid sequence EKMAAAAGNRASSSGFPGARAT and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

c) a polypeptide comprising the amino acid sequence SAPAA and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

d) a polypeptide comprising the amino acid sequence ASRGG and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

e) a polypeptide comprising the amino acid sequence CARGT and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

f) a polypeptide comprising the amino acid sequence VSSSTH and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

g) a polypeptide comprising the amino acid sequence LMAIADE and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

h) a polypeptide comprising the amino acid sequence TLDGQQDSFLQASVPNNYLETTENSSPECT and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

i) a polypeptide comprising the amino acid sequence LASISV and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2;

j) a polypeptide comprising the amino acid sequence SFGCSSNSSNAVIPSDE and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2; and

k) a polypeptide comprising the amino acid sequence SQDALPIVPQLQVENGEDIIIIQQDTPETLPGHTKAKQPYREDT and having at least 80% homology to the amino acid sequence shown in SEQ ID NO:2.

11. The isolated polypeptide of claim 9 or claim 10 comprising the amino acid sequence of SEQ ID NO:2.

12. The polypeptide of claim 9 or claim 10 further comprising heterologous amino acid sequences.

13. An antibody which selectively binds to a polypeptide of claim 9 or claim 10.

14. A method for producing a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or the amino acid sequence encoded by the

cDNA insert of the plasmid deposited with the ATCC as Accession Number PTA-1836, comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.

15. A method for detecting the presence of a polypeptide of claim 9 or claim 10 in a sample, comprising:

a) contacting the sample with a compound which selectively binds to a polypeptide of claim 8; and

b) determining whether the compound binds to the polypeptide in the sample.

16. The method of claim 13, wherein the compound which binds to the polypeptide is an antibody.

17. A kit comprising a compound which selectively binds to a polypeptide of claim 9 or claim 10 and instructions for use.

18. A method for detecting the presence of a nucleic acid molecule of claim 1 in a sample, comprising the steps of:

a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes to the nucleic acid molecule; and

b) determining whether the nucleic acid probe or primer binds to a nucleic acid molecule in the sample.

19. The method of claim 18, wherein the sample comprises mRNA molecules and is contacted with a nucleic acid probe.

20. A kit comprising a compound which selectively hybridizes to a nucleic acid molecule of claim 1 or claim 3 and instructions for use.

21. A method for identifying a compound which binds to a polypeptide of claim 9 or claim 10 comprising the steps of:

a) contacting a polypeptide, or a cell expressing a polypeptide of claim 8 with a test compound; and

b) determining whether the polypeptide binds to the test compound.

22. The method of claim 19, wherein the binding of the test compound to the polypeptide is detected by a method selected from the group consisting of:

a) detection of binding by direct detecting of test compound/polypeptide binding;

b) detection of binding using a competition binding assay;

c) detection of binding using an assay for MEKK1-mediated signal transduction.

23. A method for modulating the activity of a polypeptide of claim 9 or claim 10 comprising contacting a polypeptide or a cell expressing a polypeptide of claim 8 with a compound which binds to the polypeptide in a sufficient concentration to modulate the activity of the polypeptide.

24. A method for identifying a compound which modulates the activity of a polypeptide of claim 9 or claim 10, comprising:

a) contacting a polypeptide of claim 8 with a test compound; and

b) determining the effect of the test compound on the activity of the polypeptide to thereby identify a compound which modulates the activity of the polypeptide.

25. An isolated nucleic acid molecule selected from the group consisting of:

(a) a MEKK1 nucleic acid; and

(b) an allelic variant thereof.

26. An isolated polypeptide molecule selected from the group consisting of:

(a) a MEKK1 polypeptide; and

(b) an allelic variant thereof.

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